

CLAIMS

What I claim as my invention is:

1. An on and off switch for light in a channel comprising a transparent piezoelectric light channel that is made
 - A. larger in cross section by the action of the electric field of light passing through the channel there by opening to the passage of the light signals for the switch to be in the on condition
 - B. smaller in cross section by the action of the electric field of light passing through the channel there by closing to the passage of the light signals for the switch to be in the off condition.
2. An on and off switch for light in a channel comprising a channel next to a piece of piezoelectric material where the channel carrying the light is made
3. larger in cross section by the action of the electric field of the light in the channel on the piece of piezoelectric material that by contracting opens the light carrying channel to light signals causing the on condition
 - A. smaller in cross section by the action of the electric field of the light in the channel on the piece of piezoelectric material that by expanding into the light carrying channel closes the light channel to light signals causing the off condition.
4. An on and off switch for light signals in a channel comprising a compressible fluid portion of the channel with a side that is composed of a piezoelectric material

that responds to the electric field in the light in the channel to

- A. Contract the piezoelectric wall of the channel to open up the channel to larger dimensions so that the light signal easily passes through the channel causing the on condition.
 - B. Expanding into the light channel to close the light channel to smaller dimensions so that the light signal may not pass through the channel causing the off condition.
5. A light switch as claimed in claims one, two, or three that is actuated by the power of the switching light, which is the same wavelength as the light signal in the channel that is switched on and off.
 6. A light switch as claimed in claims one, two, or three that is actuated by the power of the switching light, which is a shorter wavelength than the light signal in the channel that is switched on and off.
 7. A light switch as claimed in claims one, two, or three that is actuated by the power of the switching light, which is a longer wavelength than the light signal in the channel that is switched on and off.
 8. A light switch for light signals as claimed in claim one where the piezoelectric material is transparent to the light passing through it.
 9. A light switch for light signals as claimed in claim three where the compressible fluid is a gas.
 10. A light switch for light signals as claimed in claim three where the compressible fluid is a mixture of gases.

11. A light switch for light signals as claimed in claim three where the compressible fluid is a liquid.
12. A light switch for light signals as claimed in claim three where the compressible fluid is a mixture of liquids.
13. A light switch for light signals as claimed in claims two and three where more than one wall of the switch is piezoelectric material that responds to the electric field of the light in the channel turning the switch on and off.
14. A light switch for light signals as claimed in claims one, two, and three where the piezoelectric material responds to power level of the light in the channel turning the switch on and off.
15. A light switch for light signals as claimed in claims one, two and three where the light that accomplishes the switching of the light signal in the channel is imposed upon a conductor near the light channel with the signal that is switched in it.